

WHAT IS CLAIMED IS:

1. A light source for therapy and/or diagnosis, comprising an array of light-emitting diodes mounted on a flexible backing, the array including light-emitting diodes of a first type having a first emission spectrum substantially in the range 370 to 450 nm and light-emitting diodes of a second type having a second emission spectrum substantially in the range 620 to 700 nm.

2. A light source according to claim 1, wherein said light-emitting diodes of the first type are independently switchable from said light-emitting diodes of the second type.

3. A light source according to claim 1, wherein said first emission spectrum is substantially in the range 400 to 430 nm.

4. A method of treatment of a pre-cancerous condition, comprising irradiating an affected area with light from a light source comprising an array of light-emitting diodes mounted on a flexible backing, the array including light-emitting diodes of a first type having a first emission spectrum substantially in the range 370 to 450 nm and light-emitting diodes of a second type having a second emission spectrum substantially in the range 620 to 700 nm.

5. A method according to claim 4, wherein said pre-cancerous condition is an actinic keratosis, said light-emitting diodes of the first type are independently switchable from said light-emitting diodes of the second type, and the step of irradiating the affected area comprises irradiating the affected area with light emitted by the light-emitting diodes of the first type.

6. A method of treatment of a non-melanoma, comprising irradiating the non-melanoma with light from a light source comprising an array of light-

emitting diodes mounted on a flexible backing, the array including light-emitting diodes of a first type having a first emission spectrum substantially in the range 370 to 450 nm and light-emitting diodes of a second type having a second emission spectrum substantially in the range 620 to 700 nm, said light-emitting diodes of the first type being independently switchable from said light-emitting diodes of the second type, and the step of irradiating the affected area comprising irradiating the affected area with light emitted by the light-emitting diodes of the second type.

7. A method according to claim 6, wherein said non-melanoma is a basal cell or squamous cell carcinoma.

8. A light source for therapy and/or diagnosis, comprising a non-planar array of discrete light-emitting diodes mounted on a head portion for attachment to the head of a patient such that light is emitted onto the face of the patient, and one or more fans for cooling the array of discrete light-emitting diodes.

9. A light source for therapy and/or diagnosis, comprising a first rigid array of light-emitting diodes, a second rigid array of light emitting diodes movably connected to an edge of the first array, a third rigid array of light-emitting diodes movably connected to another edge of the first array, and one or more fans for cooling the first, second and/or third rigid arrays.

10. A light source for therapy and/or diagnosis, comprising a first rigid array of light-emitting diodes, a second rigid array of light emitting diodes movably connected to a first edge of the first array, a third rigid array of light-emitting diodes movably connected to a second edge of the first array, and a fourth rigid array of light-emitting diodes movably connected to a third edge of the first array.

11. A method of treatment of the face and/or scalp, comprising illuminating respectively the face and/or scalp of a patient with light from a light source comprising a first rigid array of light-emitting diodes, a second rigid array of light emitting diodes movably connected to a first edge of the first array, and a third rigid array of light-emitting diodes movably connected to a second edge of the first array.

12. A light source for therapy and/or diagnosis, comprising a support for supporting the patient and an array of light-emitting diodes mounted on a curved inner surface of a rigid cover arranged to cover at least part of the length of a patient when supported by the support.

13. A light source as claimed in claim 12, wherein said support includes a further array of light-emitting diodes.

14. A light source as claimed in claim 13, wherein said further array comprises a plurality of sections which are independently switchable.

15. A light source as claimed in any one of claims 12 to 14, wherein said further array is planar.

16. A light source for therapy or diagnosis of a patient, comprising an array of light-emitting diodes arranged within a housing, and an aperture allowing a part of the patient's body to be inserted into the housing, the array being curved in two dimensions so as to concentrate light onto the part of the patient's body when inserted into the housing.

17. A light source for therapy or diagnosis of a patient, comprising a housing, one or two apertures allowing respectively one or both elbows of a patient to be inserted into the housing, and an array of light-emitting diodes arranged within the housing to direct light onto the one or both elbows when

inserted into the housing.

18. A light source for therapy or diagnosis, comprising an array of light emitting diodes coupled to a waveguide which tapers away from the diodes so as to concentrate light emitted by the diodes.

19. A light source according to claim 18, including a parallel-sided light guide coupled to the waveguide so that the light emitted by the light-emitting diodes is concentrated into the parallel-sided light guide.

20. A light source according to claim 19 wherein the parallel-sided light guide comprises one or more optical fibres and/or liquid light guides.

21. A therapeutic light source as claimed in any one of claims 8, 16, and 17 wherein the or each array of light emitting diodes have emission wavelengths substantially within the range 550 to 660 nm.

22. A light source as claimed in claim 21, wherein the emission wavelengths are substantially within the range 590 to 640 nm.

23. A light source as claimed in claim 22, wherein the diodes are of aluminum indium gallium phosphide/gallium phosphide die material.

24. A light source as claimed in claim 23, wherein the emission wavelengths are substantially within the range 560 to 644 nm.

25. A light source as claimed in claim 24, wherein the diodes are of aluminum indium gallium phosphide/gallium arsenic die material

26. A light source as claimed in claim 23, wherein the emission wavelengths are substantially within the range 650 to 660 nm.

27. A light source as claimed in claim 26, wherein the diodes are of aluminum gallium arsenic die material.

28. A light source as claimed in claim 23, wherein the mission wavelengths are substantially within the range 550 to 570 nm.

29. A light source as claimed in claim 28, wherein the diodes are of gallium phosphide die material.

30. A therapeutic light source as claimed in any one of claims 8, 16, and 17 wherein the array of LED's has a peak emission spectrum of approximately 470 nm, 505 nm or 525 nm.

31. A light source as claimed in claim 30, wherein the diodes are of indium gallium nitride die material.

32. A therapeutic light source as claimed in any one of claims 8, 16, and 17 wherein the array of LED's has a peak emission spectrum of approximately 430 nm.

33. A light source as claimed in claim 32, wherein the diodes are of gallium nitride/silicon die material.

34. A light source according to claim 18 or 19, wherein the waveguide is frusto-conical.

35. A light source according to claim 34, wherein the waveguide is of acrylic or glass.

36. A light source according to claim 18 or 19, including an array of individual heatsinks mounted on the light-emitting diodes.

37. A therapeutic light source, comprising an array of light-emitting diodes arranged so that light from the light-emitting diodes is incident directly in the treatment field with an output intensity of at least 10 mW/cm^2 and a spatial intensity fluctuation of 6% or less, and means for cooling the diodes by forced air convection.

38. A therapeutic light source, comprising an array of discretely mounted light-emitting diodes arranged so that light from the light-emitting diodes is incident directly in the treatment field with an output intensity of at least 10 mW/cm^2 and a spatial intensity fluctuation of 10% or less, and means for cooling the diodes by forced air convection.

39. A light source as claimed in claim 38, wherein the light-emitting diodes are electrically connected in a parallel-series matrix.

40. A light source as claimed in claim 38, wherein the diodes are thermally coupled to one or more heatsinks.

41. A light source as claimed in claim 38, wherein the diodes are thermally coupled to an array of individual heatsinks.

42. A light source as claimed in claim 38, wherein the light-emitting diodes and the heatsinks are mounted on opposite sides of a support plate.

43. A light source as claimed in claim 42, wherein the support plate is perforated to allow air to flow around the heatsinks and light-emitting diodes.